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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,120	01/20/2004	Manfred R. Kuchnle	3483.1006-001	8803
<div>21005      7590      08/14/2007 HAMILTON, BROOK, SMITH &amp; REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133</div>				
			EXAMINER FRANTZ, JESSICA L	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 08/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/761,120

Applicant(s)

KUEHNLE, MANFRED R.

Examiner

Jessica L. Frantz

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 48-58 and 68-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 48-58 is/are rejected.
- 7) ☒ Claim(s) 68-73 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/24/2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 71 recites the limitation "the first cylindrical tube" in the first line of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 48-51 and 53-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuehnle WO 98/20241. Kuehnle teaches the invention substantially as claimed including a method for operating a rotary motion machine 10 comprising a) atomizing and injecting a liquid fuel into and substantially evenly along a length (small area near top of chamber where the fuel is injected) of a chamber 38 defined by a radially expandable piston 36, the fuel combustion creating exhaust and causing the piston 36 to radially expand page 11 lines 21-31; b) replacing substantially all of the exhaust with pre-compressed fluid as the piston 36 is caused to contract and repeating steps a) and b) see page 12, lines 11-21 and page 14 lines 1-5. Furthermore, Kuehnle teaches that the step of replacing substantially all of the exhaust with pre-compressed fluid is carried out at least while the piston 36 is caused to contract page 12, lines 11-21

and that the piston 36 is caused to contract by relatively incompressible fluid propelled by a second radially expandable piston 36 expanding due to fuel combustion therein see page 9 line 27- page 10, line 5. Kuehnle also teaches a rotor 16 is rotated with the relatively incompressible fluid see page 9 line 27- page 10, line 5. Kuehnle further teaches a fuel injector 72, 74 that selectively injects liquid fuel into the chamber 38, a fluid intake valve 72 that allows pre-compressed fluid into the chamber 38, and at least one outlet valve 82 that selectively allows the exhaust to exit the chamber are closed during the fuel combustion see page 11, line 21- page 12, line 21. Kuehnle also teaches opening the fluid intake valve 72 and the outlet valve 82 about when the piston 36 has expanded to about its maximum dimension to allow the exhaust to leave the chamber 38 as the piston 36 is caused to contract see page 12, lines 11-21. Furthermore, Kuehnle teaches closing the outlet valve 82 about when substantially all of the exhaust has been replaced by the compressed fluid again see page 12, lines 11-21. Also, Kuehnle teaches the fluid injector 72, 74 injects fuel into the chamber 38 about when the piston 36 is contracted to its minimum diameter to atomize and inject fuel into and along a length of the chamber 38 see page 11, line 21- page 12, line 21.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuehnle WO 98/20241. Kuehnle is discussed above but fails to explicitly teach that all of the exhaust has been replaced by the pre-compressed fluid about when the piston 36 has contracted to about one-half its maximum diameter and that the closing the fluid intake valve 72 and the outlet valve 82 about when the piston 36 is contracted to about one-half its maximum diameter, the continued contraction of the piston 36 further compressing the pre-compressed fluid. However, the structure disclosed by Kuehnle is completely capable of operating in this manner and it would have been obvious to one of ordinary skill in the art at the time of the invention to have operated the apparatus according to this method to appropriately time the expansion and contraction of the pistons 36 for a particular task.

7. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuehnle WO 98/20241 in view of Russell WO 02/079625. Kuehnle teaches the claimed invention as discussed above but fails to teach the following claimed limitations that are taught by Russell: generating electricity by motion of at least on magnet 24 associated with the rotor H relative to a cooperatively arranged coil C for the purpose of generating electrical energy see Russell Abstract. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have to generate electricity by motion of at least on magnet 24 associated with the rotor H relative to a cooperatively arranged coil C for the purpose of generating electrical energy see Russell Abstract.

***Allowable Subject Matter***

8. Claims 68-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

9. Applicant's arguments filed 6/4/2007 have been fully considered but they are not persuasive. In light of Applicant's amendment to independent claims 48, Examiner's previous rejection still stands. By limiting the claim to read "atomizing and injecting a liquid fuel into and substantially evenly along a length of a chamber" doesn't necessarily require the length of the chamber be the entire axial length of the chamber. Rather a length of the chamber could be a small length near the top of the chamber. Therefore, Applicant's amendment does not place claim 48 or it's dependents in condition for allowance.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

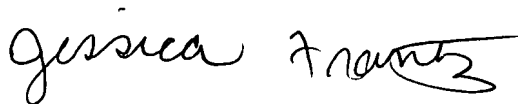
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: 2,837,893 teaches two concentric tubes with a plurality of holes which align to admit air into the combustion chamber and subsequently combust. However, one of ordinary skill in the art would not be motivated to combine due to the fact that the instant application is concerned with intermittent injection whereas the '893 patent is concerned with continuous injection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica L. Frantz whose telephone number is 571-272-5822. The examiner can normally be reached on Monday through Friday 8:30a.m. - 5:00p.m. E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JF



ANTHONY D. STASHICK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700